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99-57

May 20, 1999

Mr. Dale Hatfield
Office of Engineering and Technology
Federal Communications Commission
445 12th Street, N.W.
Room 7-A-340
Washington, D.C., 20554

Re: Final Service Disruption Report

Dear Mr. Hatfield:

Pursuant to the requirements established in the Report and Order in CC Docket No. 91-273 (Amendment of Part 63 of the Commission's Rules to Provide for Notification by Common Carriers of Service Disruptions), **SNET** submits the attached **Final** Service Disruption Report associated with a service disruption in **Derby and Seymour, Connecticut on April 21, 1999.**

- An Initial Service Disruption Report was faxed to the FCC's Monitoring Watch Officer on that date.

Please stamp and return the provided copy to confirm your receipt. Please contact me if you have questions regarding this service disruption.

Sincerely,

Barbara J. Reaves

Enclosures

CC: Bob Kimball



99-50

FCC Service Disruption Report

Type of Report:☐ Initial☐ Update☒ Final**Occurred:** Date: April 21, 1999

Time: 0304

- ☐ 50,000 or More Customers
- ☒ 30,000 - 49,999 Customers
- ☐ Fire Incident 1,000 Lines or More
- ☐ Blocked Calls - Real Time
- Special Facilities
 - ☐ 911
 - ☐ Airport
 - ☐ NCS Request

Ended: Date: April 21, 1999

Time: 0434

Geographical Area Affected:

Derby and Seymour, Connecticut

Estimated Numbers of Customer Service Lines Affected:

36,000

Type(s) of Service Affected:

Inter-office and inter-state calling.

Duration of the Outage:

1 Hour and 30 Minutes and 37 Seconds
(from 03:04:17 to 04:34:54)

Estimated Blocked Calls:

1202 (estimated from historical data)

Specific Part of Network Involved:

SS7 Office Isolation affecting inter-office trunk setup.

Apparent or Known Cause of Outage, include Name and Type of Equipment Involved:

LUCENT 5ESS Generic 5E11 - While forcing CU1 online in order to replace defective circuit packs in CU0, the CNI ring lost sanity resulting in office SS7 Isolation.

Methods Used to Restore Service:

LUCENT Regional TAC and SNET ESAC made multiple attempts to recover full call processing capability. These efforts failed at which time LUCENT 3B20 PECC was notified. Full call processing was restored one hour and twenty minutes later. It was jointly decided that no further work would be done until LUCENT had an opportunity to analyze the situation. The following day (April 22, 1999) at 0330, SNET ESAC, LUCENT RTAC and LUCENT 3B20 PECC performed a successful initialization of CU1 forcing it online. Five circuit packs were then changed in CU0 which corrected the failing diagnostics.

Root Cause of the Outage:

The Derby 5ESS switch CU1 was failing diagnostics and pointing to a bad circuit pack in CU0. ESAC and LUCENT Technologies Regional Technical Assistance Center personnel performed a full initialization with Force Online on CU1. This forced initialization was necessary to start CU1 running. This would allow the removal of CU0 to replace the defective circuit packs. The initialization started looping and did not come out of that condition. This loop condition caused the CNI Ring to lose sanity which caused the SS7 links to go to a Remote Block condition resulting in SS7 Isolation of the switch.

Steps Taken to Prevent Recurrence:

The defective hardware was shipped to LUCENT for testing and analysis. Recommendations will be made following the results of the defect analysis.

Best Practices:

A review of Section B Signaling Network Systems Part 6.0 Network Reliability – A Report to the Nation dated June 1993, and Network Reliability – The Path Forward April 1996, finds that SNET actions taken and Best Practice recommendations were effective for this incident.

Prepared By: Jesse Ledbetter

Telephone: 203-420-1148

Date Submitted: May, 18, 1999

Time: 0950